

Curriculum Map for: Grade 7 Technology

Prepared October 11, 2005

Prerequisites:

Scope:

Assessment:

Assessment comes in a variety of forms and wherever possible should be used to reflect and enhance the teaching and Learning process that occurs in a classroom. Assessment should not be seen as a separate activity, but as an integral part of the teaching and learning process. Alternative assessments apply to any and all assessments that differ from multiple choice, timed, one-shot approaches that characterize most standardized and classroom assessment. Authentic assessments are assessments that engage students in applying knowledge and skills in the same way they are used in the real world. Performance assessment is a broad term, encompassing many of the characteristics of both authentic and alternative assessments.

As this course of study demonstrates, it is clear that no single type of assessment could provide an accurate measurement of the learning experience. Students should have the best opportunity to demonstrate their understanding of the learning experience. Therefore, it is suggested that a variety of data gathering methods be used such as objective tests, observations, products, written reports, performances and a collection of student works.

The **TIME** column offers a suggested time-line so that all topics listed in the **CONTENT/SKILLS** column are feasibly met. It is understood that times will need adjustments as the course develops. The **APPLICATION/PROJECT IDEAS** column offers suggestions and sources for the teacher. This column should be updated periodically to keep current and as new ideas are generated. The **KEY IDEA/PERFORMANCE INDICATOR** column coordinates topics with the NYS standards.

TIME	CONTENT/SKILLS	APPLICATIONS/PROJECT IDEAS	KEY IDEA/PERFORM INDICATOR
35 DAYS	<ul style="list-style-type: none"> - INTRO TO TECHNOLOGY - TECH. TIMELINE - MEASUREMENT - INTRI. TO TECHNICAL DRAWING - INTRO TO C.A.D. DRAWING - SAFTEY 	<ul style="list-style-type: none"> - CHAPTER 1. READING, OUTLINE, - POWERPOINT PRESENTATION - TECHNICAL DRAWINGS - ROCKET PROJECT, DESIGN + CONSTRUCTION 	<ul style="list-style-type: none"> - DESIGN CHARTS, TABLES, GRAPHS AND OTHER REPRESENTATIONS PF OBSERVATIONS IN CONVENTIONAL AND CREATIVE WAYS TO HELP THEM ADDRESS THEIR RESEARCH QUESTION OR HYPOTHESIS - DEVELOP PLANS, INCLUDING DRAWINGS WITH MEASUREMENTS AND DETAILS OF CONSTRUCTION, AND CONSTRUCT A MODEL OF THE SOLUTION, EXHIBITING A DEGREE OF CRAFTSMANSHIP - DESCRIBE APPLICATIONS OF INFORMATION TECHNOLOGY IN MATH, SCIENCE, AND OTHER TECHNOLOGIES THAT ADDRESS NEEDS AND SOLVE PROBLEMS IN THE COMMUNITY - VISUALIZE, REPRESENT, AND TRANSFORM TWO AND THREE - DIMENSIONAL SHAPES - USE MAPS AND SCALE DRAWINGS TO REPRESENT REAL OBJECTS OR PLACES - USE CONCRETE MATERIALS

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			<p>AND DIAGRAMS TO DESCRIBE THE OPERATION OF REAL WORLD PROCESSES AND SYSTEMS</p> <ul style="list-style-type: none"> - ESTIMATE, MAKE, AND USE MEASUREMENTS IN REAL-WORLD SITUATIONS - OBSERVE AND DESCRIBE PROPERTIES OF MATERIALS SUCH AS DENSITY, CONDUCTIVITY, AND SOLUBILITY - DISTINGUISH BETWEEN CHEMICAL AND PHYSICAL CHANGES - OBSERVE AND DESCRIBE CHANGES AS RELATED TO CHEMICAL REACTIONS - DESCRIBE THE EFFECTS OF ENVIRONMENTAL CHANGES ON HUMANS AND OTHER POPULATIONS - LOCATE AND UTILIZE A RANGE OF PRINTED, ELECTRONIC, AND HUMAN INFORMATION RESOURCES TO OBTAIN IDEAS - CONSIDER CONSTRAINTS AND GENERATE SEVERAL IDEAS FOR ALTERNATIVE SOLUTIONS, USING GROUP AND INDIVIDUAL IDEATION TECHNIQUES - DEVELOP PLANS, INCLUDING DRAWINGS WITH MEASUREMENTS AND

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			<p>DETAILS OF CONSTRUCTION, AND CONSTRUCT A MODEL OF THE SOLUTION, EXHIBITING A DEGREE OF CRAFTSMANSHIP</p> <ul style="list-style-type: none">- IN A GROUP SETTING, TEST THEIR SOLUTION AGAINST DESIGN SPECIFICATIONS, PRESENT AND EVALUATE RESULTS, DESCRIBE HOW THE SOLUTION MIGHT HAVE BEEN MODIFIED FOR DIFFERENT OR BETTER RESULTS, AND DISCUSS TRADEOFFS THAT MIGHT HAVE BEEN MADE- CHOOSE AND USE RESOURCES FOR A PARTICULAR PURPOSE BASED UPON ANALYSIS AND UNDERSTANDING OF THEIR PROPERTIES, COSTS, AVAILABILITY, AND ENVIRONMENTAL IMPACT- USE A VARIETY OF HAND TOOLS AND MACHINES TO CHANGE MATERIALS INTO NEW FORMS THROUGH FORMING, SEPARATING, AND COMBINING PROCESSES

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50 DAYS	<ul style="list-style-type: none"> - 7 RESOURCES FOR TECHNOLOGY - TOOLS AND MACHINES - PROBLEM SOLVING AND SYSTEMS - MEASUREMENT - TECHNICAL + C.A.D. DRAWING 	<ul style="list-style-type: none"> - CHAPTERS 2, 3, READING, - OUTLINE, POWERPOINT - CO2 VEHICLE DESIGN, - CONSTRUCTION, TESTING - MAGLEV DESIGN, CONSTRUCTION, TESTING 	<ul style="list-style-type: none"> - DESIGN CHARTS, TABLES, GRAPHS AND OTHER REPRESENTATIONS OF OBSERVATIONS IN CONVENTIONAL AND CREATIVE WAYS TO HELP THEM ADDRESS THEIR RESEARCH QUESTION OR HYPOTHESIS - DEVELOP PLANS, INCLUDING DRAWINGS WITH MEASUREMENTS AND DETAILS OF CONSTRUCTION, AND CONSTRUCT A MODEL OF THE SOLUTION, EXHIBITING A DEGREE OF CRAFTSMANSHIP - DESCRIBE APPLICATIONS OF INFORMATION TECHNOLOGY IN MATH, SCIENCE, AND OTHER TECHNOLOGIES THAT ADDRESS NEEDS AND SOLVE PROBLEMS IN THE COMMUNITY - VISUALIZE, REPRESENT, AND TRANSFORM TWO AND THREE - DIMENSIONAL SHAPES - USE MAPS AND SCALE DRAWINGS TO REPRESENT REAL OBJECTS OR PLACES - USE CONCRETE MATERIALS AND DIAGRAMS TO DESCRIBE THE OPERATION

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			<p>OF REAL WORLD PROCESSES AND SYSTEMS</p> <ul style="list-style-type: none"> - ESTIMATE, MAKE, AND USE MEASUREMENTS IN REAL-WORLD SITUATIONS - OBSERVE AND DESCRIBE PROPERTIES OF MATERIALS SUCH AS DENSITY, CONDUCTIVITY, AND SOLUBILITY - DISTINGUISH BETWEEN CHEMICAL AND PHYSICAL CHANGES - OBSERVE AND DESCRIBE CHANGES AS RELATED TO CHEMICAL REACTIONS - DESCRIBE THE EFFECTS OF ENVIRONMENTAL CHANGES ON HUMANS AND OTHER POPULATIONS - LOCATE AND UTILIZE A RANGE OF PRINTED, ELECTRONIC, AND HUMAN INFORMATION RESOURCES TO OBTAIN IDEAS - CONSIDER CONSTRAINTS AND GENERATE SEVERAL IDEAS FOR ALTERNATIVE SOLUTIONS, USING GROUP AND INDIVIDUAL IDEATION TECHNIQUES - DEVELOP PLANS, INCLUDING DRAWINGS WITH MEASUREMENTS AND DETAILS OF CONSTRUCTION, AND

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15 DAYS	<ul style="list-style-type: none"> - PROCESSING MATERIALS - MATERIAL RESOURCES - PROPERTIES OF MATERIALS - RESOURCE AVAILIBITY - SELECTING THE CORRECT MATERIALS - MEASUREMENT - CAD + TECHNICAL DRAWING - TOOLS AND MACHINES 	<ul style="list-style-type: none"> - CHAPETR 8 READING, OUTLINE, POWERPOINT - POPSICLE STICK BRIDGE DESIGN, CONSTRUCTION, TESTING, 	<ul style="list-style-type: none"> - DESIGN CHARTS, TABLES, GRAPHS AND OTHER REPRESENTATIONS PF OBSERVATIONS IN CONVENTIONAL AND CREATIVE WAYS TO HELP THEM ADDRESS THEIR RESEARCH QUESTION OR HYPOTHESIS - DEVELOP PLANS, INCLUDING DRAWINGS WITH MEASUREMENTS AND DETAILS OF CONSTRUCTION, AND CONSTRUCT A MODEL OF THE SOLUTION, EXHIBITING A DEGREE OF CRAFTSMANSHIP - DESCRIBE APPLICATIONS OF INFORMATION TECHNOLOGY IN MATH, SCIENCE, AND OTHER TECHNOLOGIES THAT ADDRESS NEEDS AND SOLVE PROBLEMS IN THE COMMUNITY - VISUALIZE, REPRESENT, AND TRANSFORM TWO AND THREE - DIMENSIONAL SHAPES - USE MAPS AND SCALE DRAWINGS TO REPRESENT REAL OBJECTS OR PLACES - USE CONCRETE MATERIALS AND DIAGRAMS TO

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